GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: October 26, 2005, 09:41:16 ; Search time 162 Seconds
(without alignments)
26.262 Million cell updates/sec

Title: US-09-623-543A-8
Perfect score: 64
Sequence: 1 YTTNPRKLYDY 11

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_16Dec04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	64	100.0	11	2	AAW34298	Aaw34298 Kringle 5
2	64	100.0	11	3	AAB01899	Aab01899 Human pla
3	64	100.0	11	4	AAB92094	Aab92094 Laminin f
4	64	100.0	11	4	AAB36569	Aab36569 Mammalian
5	64	100.0	11	8	ADQ28325	Adq28325 Human pla
6	64	100.0	12	4	AAB92089	Aab92089 Laminin f
7	64	100.0	12	4	AAB92093	Aab92093 Laminin f
8	64	100.0	12	4	AAB36564	Aab36564 Mammalian
9	64	100.0	12	4	AAB36568	Aab36568 Mammalian

10	64	100.0	18	5	AAU97882	Aau97882 Angiostat
11	64	100.0	23	4	AAB92096	Aab92096 Laminin f
12	64	100.0	23	4	AAB36570	Aab36570 Mammalian
13	64	100.0	24	4	AAB92090	Aab92090 Laminin f
14	64	100.0	24	4	AAB92095	Aab92095 Laminin f
15	64	100.0	24	4	AAB36565	Aab36565 Mammalian
16	64	100.0	32	5	AAU98485	Aau98485 Plasminog
17	64	100.0	79	2	AAW19256	Aaw19256 Human pla
18	64	100.0	80	7	ADM15717	Adm15717 Plasminog
19	64	100.0	84	7	ABR42625	Abr42625 Human pla
20	64	100.0	90	3	AAB01914	Aab01914 Human pla
21	64	100.0	91	3	AAY58868	Aay58868 Human pla
22	64	100.0	93	3	AAB01917	Aab01917 Human pla
23	64	100.0	95	3	AAB01913	Aab01913 Human pla
24	64	100.0	98	3	AAB01916	Aab01916 Human pla
25	64	100.0	101	2	AAW34286	Aaw34286 Human kri
26	64	100.0	101	3	AAB01890	Aab01890 Human pla
27	64	100.0	101	3	AAB01912	Aab01912 Human pla
28	64	100.0	101	8	ADK23687	Adk23687 Human Kri
29	64	100.0	101	8	ADQ28312	Adq28312 Human pla
30	64	100.0	102	2	AAW34287	Aaw34287 Mouse kri
31	64	100.0	102	3	AAB01891	Aab01891 Mouse pla
32	64	100.0	102	8	ADK23688	Adk23688 Mouse kri
33	64	100.0	102	8	ADQ28313	Adq28313 Mouse pla
34	64	100.0	104	3	AAB01915	Aab01915 Human pla
35	64	100.0	189	3	AAB01918	Aab01918 Human pla
36	64	100.0	192	3	AAB01919	Aab01919 Human pla
37	64	100.0	266	4	AAU32126	Aau32126 Novel hum
38	64	100.0	266	4	AAU32129	Aau32129 Novel hum
39	64	100.0	266	4	AAU32136	Aau32136 Novel hum
40	64	100.0	271	3	AAB08407	Aab08407 A human a
41	64	100.0	348	5	ABB81498	Abb81498 Human min
42	64	100.0	348	7	ABG75026	Abg75026 Mini-plas
43	64	100.0	348	8	ADS20378	Ads20378 Human min
44	64	100.0	357	2	AAY25408	Aay25408 Human tis
45	64	100.0	362	5	ABB09586	Abb09586 Antiangio

ALIGNMENTS

RESULT 1
AAW34298
ID AAW34298 standard; peptide; 11 AA.
XX
AC AAW34298;
XX
DT 14-MAY-1998 (first entry)
XX
DE Kringle 5 peptide fragment.
XX
KW Plasminogen; human; Kringle 5 peptide; anti-angiogenesis agent; cancer;
KW metastatic solid tumour; carcinoma; sarcoma; lymphoma; haemangioma;
KW psoriasis; arthritis; macular degeneration; diabetic retinopathy;
KW autoimmune disease; ocular disease; capillary proliferation; therapy;
KW kringle 5 receptor.
XX

OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /note= "N-Ac-Tyr"
FT Modified-site 11
FT /note= "C-terminal amide"
XX
PN WO9741824-A2.
XX
PD 13-NOV-1997.
XX
PF 05-MAY-1997; 97WO-US007700.
XX
PR 03-MAY-1996; 96US-00643219.
PR 03-APR-1997; 97US-00832087.
XX
PA (ABBO) ABBOTT LAB.
XX
PI Davidson DJ, Wang J, Gubbins EJ;
XX
DR WPI; 1997-558670/51.
XX
PT New kringle 5 peptide(s) and fusion proteins derived from plasminogen -
PT useful as anti-angiogenesis agents for treating cancer, psoriasis,
PT arthritis etc., including gene therapy.
XX
PS Example 5; Page 43; 78pp; English.
XX
CC This sequence is synthetic a kringle 5 (K5) peptide homologous to human
CC plasminogen. K5 peptide fragments homologous to this sequence, are anti-
CC angiogenesis agents, specifically for treating or preventing cancer,
CC particularly primary or metastatic solid tumours, carcinomas, sarcomas,
CC lymphomas, haemangiomas. They can also be used for treating or preventing
CC psoriasis, arthritis, macular degeneration and diabetic retinopathy. The
CC fragments can also be used to treat autoimmune or ocular diseases,
CC capillary proliferation within atherosclerotic plaque, haemophiliac
CC joints, wound granulation, ulcers etc., also as contraceptives that
CC inhibit ovulation and establishment of the placenta. K5 antisera or
CC (ant)agonists can be used similarly, optionally coupled to cytotoxic
CC agents. Antagonists may be used to induce angiogenesis, e.g. for wound
CC healing. The K5 peptides are also used to raise specific antibodies (Ab),
CC for diagnosis and for affinity purification of K5 receptors. The K5
CC receptors may then be expressed in tumour cells to increase their
CC response to the peptides or used for identification of smaller
CC antagonists. The Ab are used to detect/quantify the peptides in
CC biological samples. The K5 peptides (and K5 fusion proteins) selectively
CC inhibit proliferation of endothelial cells with low toxicity against
CC normal cells. Typically they have 800-times greater inhibitory activity
CC against bovine capillary cells in vitro than kringle 1-4 peptides
XX
SQ Sequence 11 AA;

Query Match 100.0%; Score 64; DB 2; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.00014;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 YTTNPRKLYDY 11
              ||||||||||
Db          1 YTTNPRKLYDY 11


RESULT 2
AAB01899
ID   AAB01899 standard; peptide; 11 AA.
XX
AC   AAB01899;
XX
DT   18-SEP-2000  (first entry)
XX
DE   Human plasminogen kringle 5 peptide fragment #5.
XX
KW   Plasminogen; human; kringle 5 domain; endothelial cell proliferation;
KW   angiogenesis; antiproliferative; antiarteriosclerotic; cytostatic;
KW   antipsoriatic; antiinflammatory; antiulcer; antirheumatic; antiarthritic;
KW   antiangiogenic; cancer; tumour; autoimmune disease.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /note= "N-terminal acetyl moiety"
FT   Modified-site   11
FT                   /note= "C-terminal amide moiety"
XX
PN   US6057122-A.
XX
PD   02-MAY-2000.
XX
PF   05-MAY-1997;   97US-00851350.
XX
PR   03-MAY-1996;   96US-00643219.
PR   03-APR-1997;   97US-00832087.
XX
PA   (ABBO ) ABBOTT LAB.
XX
PI   Davidson DJ;
XX
DR   WPI; 2000-349573/30.
XX
PT   Preparation of Kringle five peptide fragment for treating various
PT   disorders such as angiogenic, ocular, skin diseases and cancer, involves
PT   mixing mammalian plasminogen and elastase followed by incubation and
PT   isolation.
XX
PS   Example 5; Col 36; 48pp; English.
XX
CC   The invention relates to a method of preparing plasminogen kringle 5
CC   peptide fragments. The method comprises mixing mammalian plasminogen and
CC   elastase in the ratio 1:100-1:300, followed by incubating and isolating
CC   the fragment. The kringle 5 peptides are inhibitors of angiogenesis and
CC   endothelial cell proliferation and migration. The peptides are useful for
CC   treating angiogenic diseases, primary and metastatic solid tumours and
CC   carcinomas of various organs such as breast, genital tract, endocrine
```

CC glands, skin, tumours of the brain and eyes and solid tumours arising
CC from haematopoietic malignancies such as leukaemias and lymphomas. They
CC are also used for the prophylaxis of various autoimmune diseases (e.g.,
CC rheumatoid arthritis), ocular diseases, skin diseases (e.g., psoriasis),
CC blood vessel diseases (e.g. haemangiomas, Osler-Webber Syndrome),
CC diseases caused by excessive or abnormal stimulation of endothelial cells
CC (e.g., Crohn's disease, atherosclerosis), diseases which have
CC angiogenesis as a pathologic consequence (e.g., cat scratch disease and
CC ulcers). The peptides are also useful as a birth control agent which
CC inhibits ovulation and establishment of the placenta. Sequences AAB01888,
CC AAB01889 and AAB01895-B01905 represent human plasminogen kringle 5-
CC derived peptides synthesised and used in exemplifications of the
CC invention
XX
SQ Sequence 11 AA;

Query Match 100.0%; Score 64; DB 3; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.00014;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YTTNPRKLYDY 11
||||||||||||
Db 1 YTTNPRKLYDY 11

RESULT 3
AAB92094
ID AAB92094 standard; peptide; 11 AA.
XX
AC AAB92094;
XX
DT 22-JUN-2001 (first entry)
XX
DE Laminin fragment SEQ ID NO:1270.
XX
KW Protection; endogenous therapeutic peptide; peptidase; conjugation;
KW blood component; modification; succinimidyl; maleimido group; amino;
KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO200069900-A2.
XX
PD 23-NOV-2000.
XX
PF 17-MAY-2000; 2000WO-US013576.
XX
PR 17-MAY-1999; 99US-0134406P.
PR 10-SEP-1999; 99US-0153406P.
PR 15-OCT-1999; 99US-0159783P.
XX
PA (CONJ-) CONJUCHEM INC.
XX
PI Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;
XX
DR WPI; 2001-112059/12.

XX
PT Modifying and attaching therapeutic peptides to albumin prevents
PT peptidase degradation, useful for increasing length of in vivo activity.
XX
PS Disclosure; Page 611; 733pp; English.
XX
CC The present invention describes a modified therapeutic peptide (I)
CC comprising a therapeutically active amino acid region (III) and a
CC reactive group (II) (e.g. succinimidyl and maleimido groups) attached to
CC a less therapeutically active amino acid region (IV), which covalently
CC bonds with amino/hydroxyl/thiol groups on blood components to form a
CC peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
CC (I) are useful for modifying therapeutic peptides e.g. hormones, growth
CC factors and neurotransmitters, to protect them from peptidase activity in
CC vivo for the treatment of various disorders. Endogenous therapeutic
CC peptides are not suitable as drug candidates as they require frequent
CC administration due to rapid degradation by peptidases in the body.
CC Modifying and attaching therapeutic peptides to albumin prevents or
CC reduces the action of peptidases to increase length of activity (half
CC life) and specificity as bonding to large molecules decreases
CC intracellular uptake and interference with physiological processes.
CC AAB90829 to AAB92441 represent peptides which can be used in the
CC exemplification of the present invention
XX
SQ Sequence 11 AA;

Query Match 100.0%; Score 64; DB 4; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.00014;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 YTTNPRKLYDY 11
              ||||||||||
Db          1 YTTNPRKLYDY 11
```

RESULT 4
AAB36569
ID AAB36569 standard; peptide; 11 AA.
XX
AC AAB36569;
XX
DT 09-MAR-2001 (first entry)
XX
DE Mammalian kringle 5 peptide SEQ ID NO:8.
XX
KW Kringle 5; anti-angiogenic; modified; blood protein; anti-inflammatory;
KW vasotropic; cytostatic; antirheumatic; antipsoriatic; antidiabetic;
KW antiarteriosclerotic; osteopathic; angiogenesis inhibitor; angiogenesis;
KW inflammatory disorder; inflammation; chronic articular rheumatism;
KW psoriasis; diabetic retinopathy; neovascular glaucoma; restenosis;
KW capillary proliferation; atherosclerotic plaque; osteoporosis; cancer;
KW solid tumour; angiofibroma; retrolental fibroplasia; haemangioma;
KW Kasposi's sarcoma; neovascularisation; tumour growth.
XX
OS Mammalia.
XX
PN WO200070665-A2.

XX
PD 23-NOV-2000.
XX
PF 17-MAY-2000; 2000WO-IB000763.
XX
PR 17-MAY-1999; 99US-0134406P.
XX
PA (CONJ-) CONJUCHEM INC.
XX
PI Bridon DP, Rasamoelisolo M, Thibaudeau K, Huang X, Beliveau R;
XX
DR WPI; 2001-090970/10.
XX
PT New modified anti-angiogenic kringle 5 peptides capable of forming
PT conjugates with blood proteins, useful for treating angiogenesis,
PT inappropriate invasion of vessels or cancers in humans or mammals.
XX
PS Claim 5; Page 9; 82pp; English.
XX
CC The present invention describes a modified anti-angiogenic peptide (I)
CC comprising a reactive group that reacts with amino groups, hydroxyl
CC groups or thiol groups on blood components to form stable covalent bonds.
CC The reactive group is selected from succinimidyl or maleimido groups. (I)
CC can have anti-inflammatory, vasotropic, cytostatic, antirheumatic,
CC antipsoriatic, antidiabetic, antiarteriosclerotic and osteopathic
CC activities, and is an angiogenesis inhibitor. (I) are useful for treating
CC angiogenesis in a human, where the derivative is reacted with blood
CC proteins. (I) are also useful for manufacturing a medicament extending
CC the in vivo half-life of a kringle 5 peptide in a patient to provide an
CC anti-angiogenic effect. In particular, a modified kringle 5 peptide can
CC be used for treating inflammatory disorders (e.g. immune and non-immune
CC inflammation, chronic articular rheumatism or psoriasis), disorders
CC associated with inappropriate or inopportune invasion of vessels (e.g.
CC diabetic retinopathy, neovascular glaucoma, restenosis, capillary
CC proliferation in atherosclerotic plaques or osteoporosis), or cancer
CC associated disorders (e.g. solid tumours, solid tumour metastases,
CC angiofibromas, retrolental fibroplasia, haemangiomas, Kasposi's sarcoma
CC or other cancers requiring neovascularisation to support tumour growth).
CC The peptides are useful for treating these diseases in mammalian or human
CC patients. AAB36562 represents a mammalian kringle 5 protein, and AAB36563
CC to AAB36577 represent specifically claimed kringle 5 peptides from the
CC present invention
XX
SQ Sequence 11 AA;

Query Match 100.0%; Score 64; DB 4; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.00014;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 YTTNPRKLYDY 11
              ||||||||||
Db          1 YTTNPRKLYDY 11
```

RESULT 5
ADQ28325
ID ADQ28325 standard; peptide; 11 AA.

XX
AC ADQ28325;
XX
DT 07-OCT-2004 (first entry)
XX
DE Human plasminogen kringle 5 domain-based peptide #9.
XX
KW Human; plasminogen; kringle 5 domain; angiogenic disease; cancer;
KW arthritis; macular degeneration; diabetic retinopathy; angiogenesis.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /note= "N-acetylated"
FT Modified-site 11
FT /note= "Amidated"
XX
PN US2004138127-A1.
XX
PD 15-JUL-2004.
XX
PF 08-JAN-2004; 2004US-00753646.
XX
PR 03-MAY-1996; 96US-00643219.
PR 03-APR-1997; 97US-00832087.
PR 05-MAY-1997; 97US-00851350.
PR 05-SEP-1997; 97US-00924287.
XX
PA (DAVI/) DAVIDSON D J.
PA (WANG/) WANG J.
PA (GUBB/) GUBBINS E J.
XX
PI Davidson DJ, Wang J, Gubbins EJ;
XX
DR WPI; 2004-552394/53.
XX
PT Novel kringle 5 peptide compound or kringle 5 fusion protein, useful for
PT inhibiting angiogenesis and thus for treating cancer, arthritis, macular
PT degeneration and diabetic retinopathy.
XX
PS Example 5; Page 20; 53pp; English.
XX
CC The invention relates to a compound chosen from a sequence based on the
CC kringle 5 domain of human plasminogen (or is a kringle 5 domain fusion
CC protein) and conforms to a general formula given in the specification.
CC The compound is useful for inhibiting angiogenic diseases and e.g.,
CC cancer, arthritis, macular degeneration and diabetic retinopathy. The
CC present sequence is a kringle 5 domain-based peptide of the invention.
XX
SQ Sequence 11 AA;

Query Match 100.0%; Score 64; DB 8; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.00014;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YTTNPRKLYDY 11

```
              ||||||||||
Db          1 YTTNPRKLYDY 11


RESULT 6
AAB92089
ID   AAB92089 standard; peptide; 12 AA.
XX
AC   AAB92089;
XX
DT   22-JUN-2001  (first entry)
XX
DE   Laminin fragment SEQ ID NO:1265.
XX
KW   Protection; endogenous therapeutic peptide; peptidase; conjugation;
KW   blood component; modification; succinimidyl; maleimido group; amino;
KW   hydroxyl; thiol; hormone; growth factor; neurotransmitter.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO200069900-A2.
XX
PD   23-NOV-2000.
XX
PF   17-MAY-2000; 2000WO-US013576.
XX
PR   17-MAY-1999;   99US-0134406P.
PR   10-SEP-1999;   99US-0153406P.
PR   15-OCT-1999;   99US-0159783P.
XX
PA   (CONJ-) CONJUCHEM INC.
XX
PI   Bridon DP,  Ezrin AM,  Milner PG,  Holmes DL,  Thibaudeau K;
XX
DR   WPI; 2001-112059/12.
XX
PT   Modifying and attaching therapeutic peptides to albumin prevents
PT   peptidase degradation, useful for increasing length of in vivo activity.
XX
PS   Disclosure; Page 609; 733pp; English.
XX
CC   The present invention describes a modified therapeutic peptide (I)
CC   comprising a therapeutically active amino acid region (III) and a
CC   reactive group (II) (e.g. succinimidyl and maleimido groups) attached to
CC   a less therapeutically active amino acid region (IV), which covalently
CC   bonds with amino/hydroxyl/thiol groups on blood components to form a
CC   peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
CC   (I) are useful for modifying therapeutic peptides e.g. hormones, growth
CC   factors and neurotransmitters, to protect them from peptidase activity in
CC   vivo for the treatment of various disorders. Endogenous therapeutic
CC   peptides are not suitable as drug candidates as they require frequent
CC   administration due to rapid degradation by peptidases in the body.
CC   Modifying and attaching therapeutic peptides to albumin prevents or
CC   reduces the action of peptidases to increase length of activity (half
CC   life) and specificity as bonding to large molecules decreases
CC   intracellular uptake and interference with physiological processes.
```

CC AAB90829 to AAB92441 represent peptides which can be used in the
CC exemplification of the present invention
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 64; DB 4; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.00016;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YTTNPRKLYDY 11
||||||||||
Db 1 YTTNPRKLYDY 11

RESULT 7
AAB92093
ID AAB92093 standard; peptide; 12 AA.
XX
AC AAB92093;
XX
DT 22-JUN-2001 (first entry)
XX
DE Laminin fragment SEQ ID NO:1269.
XX
KW Protection; endogenous therapeutic peptide; peptidase; conjugation;
KW blood component; modification; succinimidyl; maleimido group; amino;
KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO200069900-A2.
XX
PD 23-NOV-2000.
XX
PF 17-MAY-2000; 2000WO-US013576.
XX
PR 17-MAY-1999; 99US-0134406P.
PR 10-SEP-1999; 99US-0153406P.
PR 15-OCT-1999; 99US-0159783P.
XX
PA (CONJ-) CONJUCHEM INC.
XX
PI Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;
XX
DR WPI; 2001-112059/12.
XX
PT Modifying and attaching therapeutic peptides to albumin prevents
PT peptidase degradation, useful for increasing length of in vivo activity.
XX
PS Disclosure; Page 610; 733pp; English.
XX
CC The present invention describes a modified therapeutic peptide (I)
CC comprising a therapeutically active amino acid region (III) and a
CC reactive group (II) (e.g. succinimidyl and maleimido groups) attached to
CC a less therapeutically active amino acid region (IV), which covalently
CC bonds with amino/hydroxyl/thiol groups on blood components to form a

CC peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
CC (I) are useful for modifying therapeutic peptides e.g. hormones, growth
CC factors and neurotransmitters, to protect them from peptidase activity in
CC vivo for the treatment of various disorders. Endogenous therapeutic
CC peptides are not suitable as drug candidates as they require frequent
CC administration due to rapid degradation by peptidases in the body.
CC Modifying and attaching therapeutic peptides to albumin prevents or
CC reduces the action of peptidases to increase length of activity (half
CC life) and specificity as bonding to large molecules decreases
CC intracellular uptake and interference with physiological processes.
CC AAB90829 to AAB92441 represent peptides which can be used in the
CC exemplification of the present invention
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 64; DB 4; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.00016;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YTTNPRKLYDY 11
||||||||||
Db 1 YTTNPRKLYDY 11

RESULT 8
AAB36564
ID AAB36564 standard; peptide; 12 AA.
XX
AC AAB36564;
XX
DT 09-MAR-2001 (first entry)
XX
DE Mammalian kringle 5 peptide SEQ ID NO:3.
XX
KW Kringle 5; anti-angiogenic; modified; blood protein; anti-inflammatory;
KW vasotropic; cytostatic; antirheumatic; antipsoriatic; antidiabetic;
KW antiarteriosclerotic; osteopathic; angiogenesis inhibitor; angiogenesis;
KW inflammatory disorder; inflammation; chronic articular rheumatism;
KW psoriasis; diabetic retinopathy; neovascular glaucoma; restenosis;
KW capillary proliferation; atherosclerotic plaque; osteoporosis; cancer;
KW solid tumour; angiofibroma; retrolental fibroplasia; haemangioma;
KW Kasposi's sarcoma; neovascularisation; tumour growth.
XX
OS Mammalia.
XX
PN WO200070665-A2.
XX
PD 23-NOV-2000.
XX
PF 17-MAY-2000; 2000WO-IB000763.
XX
PR 17-MAY-1999; 99US-0134406P.
XX
PA (CONJ-) CONJUCHEM INC.
XX
PI Bridon DP, Rasamoelisolo M, Thibaudeau K, Huang X, Beliveau R;
XX

DR WPI; 2001-090970/10.
XX
PT New modified anti-angiogenic kringle 5 peptides capable of forming
PT conjugates with blood proteins, useful for treating angiogenesis,
PT inappropriate invasion of vessels or cancers in humans or mammals.
XX
PS Claim 5; Page 9; 82pp; English.
XX
CC The present invention describes a modified anti-angiogenic peptide (I)
CC comprising a reactive group that reacts with amino groups, hydroxyl
CC groups or thiol groups on blood components to form stable covalent bonds.
CC The reactive group is selected from succinimidyl or maleimido groups. (I)
CC can have anti-inflammatory, vasotropic, cytostatic, antirheumatic,
CC antipsoriatic, antidiabetic, antiarteriosclerotic and osteopathic
CC activities, and is an angiogenesis inhibitor. (I) are useful for treating
CC angiogenesis in a human, where the derivative is reacted with blood
CC proteins. (I) are also useful for manufacturing a medicament extending
CC the in vivo half-life of a kringle 5 peptide in a patient to provide an
CC anti-angiogenic effect. In particular, a modified kringle 5 peptide can
CC be used for treating inflammatory disorders (e.g. immune and non-immune
CC inflammation, chronic articular rheumatism or psoriasis), disorders
CC associated with inappropriate or inopportune invasion of vessels (e.g.
CC diabetic retinopathy, neovascular glaucoma, restenosis, capillary
CC proliferation in atherosclerotic plaques or osteoporosis), or cancer
CC associated disorders (e.g. solid tumours, solid tumour metastases,
CC angiofibromas, retrolental fibroplasia, haemangiomas, Kasposi's sarcoma
CC or other cancers requiring neovascularisation to support tumour growth).
CC The peptides are useful for treating these diseases in mammalian or human
CC patients. AAB36562 represents a mammalian kringle 5 protein, and AAB36563
CC to AAB36577 represent specifically claimed kringle 5 peptides from the
CC present invention
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 64; DB 4; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.00016;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 YTTNPRKLYDY 11
              ||||||||||
Db          1 YTTNPRKLYDY 11
```

RESULT 9
AAB36568
ID AAB36568 standard; peptide; 12 AA.
XX
AC AAB36568;
XX
DT 09-MAR-2001 (first entry)
XX
DE Mammalian kringle 5 peptide SEQ ID NO:7.
XX
KW Kringle 5; anti-angiogenic; modified; blood protein; anti-inflammatory;
KW vasotropic; cytostatic; antirheumatic; antipsoriatic; antidiabetic;
KW antiarteriosclerotic; osteopathic; angiogenesis inhibitor; angiogenesis;
KW inflammatory disorder; inflammation; chronic articular rheumatism;

KW psoriasis; diabetic retinopathy; neovascular glaucoma; restenosis;
KW capillary proliferation; atherosclerotic plaque; osteoporosis; cancer;
KW solid tumour; angiofibroma; retrolental fibroplasia; haemangioma;
KW Kasposi's sarcoma; neovascularisation; tumour growth.
XX
OS Mammalia.
XX
PN WO200070665-A2.
XX
PD 23-NOV-2000.
XX
PF 17-MAY-2000; 2000WO-IB000763.
XX
PR 17-MAY-1999; 99US-0134406P.
XX
PA (CONJ-) CONJUCHEM INC.
XX
PI Bridon DP, Rasamoelisolo M, Thibaudeau K, Huang X, Beliveau R;
XX
DR WPI; 2001-090970/10.
XX
PT New modified anti-angiogenic kringle 5 peptides capable of forming
PT conjugates with blood proteins, useful for treating angiogenesis,
PT inappropriate invasion of vessels or cancers in humans or mammals.
XX
PS Claim 5; Page 9; 82pp; English.
XX
CC The present invention describes a modified anti-angiogenic peptide (I)
CC comprising a reactive group that reacts with amino groups, hydroxyl
CC groups or thiol groups on blood components to form stable covalent bonds.
CC The reactive group is selected from succinimidyl or maleimido groups. (I)
CC can have anti-inflammatory, vasotropic, cytostatic, antirheumatic,
CC antipsoriatic, antidiabetic, antiarteriosclerotic and osteopathic
CC activities, and is an angiogenesis inhibitor. (I) are useful for treating
CC angiogenesis in a human, where the derivative is reacted with blood
CC proteins. (I) are also useful for manufacturing a medicament extending
CC the in vivo half-life of a kringle 5 peptide in a patient to provide an
CC anti-angiogenic effect. In particular, a modified kringle 5 peptide can
CC be used for treating inflammatory disorders (e.g. immune and non-immune
CC inflammation, chronic articular rheumatism or psoriasis), disorders
CC associated with inappropriate or inopportune invasion of vessels (e.g.
CC diabetic retinopathy, neovascular glaucoma, restenosis, capillary
CC proliferation in atherosclerotic plaques or osteoporosis), or cancer
CC associated disorders (e.g. solid tumours, solid tumour metastases,
CC angiofibromas, retrolental fibroplasia, haemangiomas, Kasposi's sarcoma
CC or other cancers requiring neovascularisation to support tumour growth).
CC The peptides are useful for treating these diseases in mammalian or human
CC patients. AAB36562 represents a mammalian kringle 5 protein, and AAB36563
CC to AAB36577 represent specifically claimed kringle 5 peptides from the
CC present invention
XX
SQ Sequence 12 AA;

Query Match 100.0%; Score 64; DB 4; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.00016;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 YTTNPRKLYDY 11
              ||||||||||
Db          1 YTTNPRKLYDY 11


RESULT 10
AAU97882
ID   AAU97882 standard; peptide; 18 AA.
XX
AC   AAU97882;
XX
DT   21-AUG-2002  (first entry)
XX
DE   Angiostatin detection method associated peptide.
XX
KW   Plasminogen; human; angiostatin detection; immunological detection.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 17
FT                   /label= Unknown
FT                   /note= "This is represented by an O in the specification"
XX
PN   JP2002112768-A.
XX
PD   16-APR-2002.
XX
PF   04-OCT-2000; 2000JP-00304946.
XX
PR   04-OCT-2000; 2000JP-00304946.
XX
PA   (IGAK-) IGAKU SEIBUTSUGAKU KENKYUSHO KK.
XX
DR   WPI; 2002-448751/48.
XX
PT   Angiotensin specific binding monoclonal antibody composed of residues 79-
PT   84 of plasminogen of human being, mouse and rat used for detection of
PT   angiostatin.
XX
PS   Example 1; Fig 2; 16pp; Japanese.
XX
CC   The invention describes immunological detection of angiostatin with a
CC   monoclonal antibody. This sequence represents a peptide associated with
CC   the creation of an angiotensin specific binding monoclonal antibody
XX
SQ   Sequence 18 AA;

  Query Match             100.0%;  Score 64;  DB 5;  Length 18;
  Best Local Similarity   100.0%;  Pred. No. 0.00024;
  Matches   11;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 YTTNPRKLYDY 11
              ||||||||||
Db          2 YTTNPRKLYDY 12
```

RESULT 11
AAB92096
ID AAB92096 standard; peptide; 23 AA.
XX
AC AAB92096;
XX
DT 22-JUN-2001 (first entry)
XX
DE Laminin fragment SEQ ID NO:1272.
XX
KW Protection; endogenous therapeutic peptide; peptidase; conjugation;
KW blood component; modification; succinimidyl; maleimido group; amino;
KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO200069900-A2.
XX
PD 23-NOV-2000.
XX
PF 17-MAY-2000; 2000WO-US013576.
XX
PR 17-MAY-1999; 99US-0134406P.
PR 10-SEP-1999; 99US-0153406P.
PR 15-OCT-1999; 99US-0159783P.
XX
PA (CONJ-) CONJUCHEM INC.
XX
PI Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;
XX
DR WPI; 2001-112059/12.
XX
PT Modifying and attaching therapeutic peptides to albumin prevents
PT peptidase degradation, useful for increasing length of in vivo activity.
XX
PS Disclosure; Page 611; 733pp; English.
XX
CC The present invention describes a modified therapeutic peptide (I)
CC comprising a therapeutically active amino acid region (III) and a
CC reactive group (II) (e.g. succinimidyl and maleimido groups) attached to
CC a less therapeutically active amino acid region (IV), which covalently
CC bonds with amino/hydroxyl/thiol groups on blood components to form a
CC peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
CC (I) are useful for modifying therapeutic peptides e.g. hormones, growth
CC factors and neurotransmitters, to protect them from peptidase activity in
CC vivo for the treatment of various disorders. Endogenous therapeutic
CC peptides are not suitable as drug candidates as they require frequent
CC administration due to rapid degradation by peptidases in the body.
CC Modifying and attaching therapeutic peptides to albumin prevents or
CC reduces the action of peptidases to increase length of activity (half
CC life) and specificity as bonding to large molecules decreases
CC intracellular uptake and interference with physiological processes.
CC AAB90829 to AAB92441 represent peptides which can be used in the
CC exemplification of the present invention
XX
SQ Sequence 23 AA;

Query Match 100.0%; Score 64; DB 4; Length 23;
Best Local Similarity 100.0%; Pred. No. 0.0003;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 YTTNPRKLYDY 11
              ||||||||||
Db         13 YTTNPRKLYDY 23
```

RESULT 12
AAB36570
ID AAB36570 standard; peptide; 23 AA.
XX
AC AAB36570;
XX
DT 09-MAR-2001 (first entry)
XX
DE Mammalian kringle 5 peptide SEQ ID NO:9.
XX
KW Kringle 5; anti-angiogenic; modified; blood protein; anti-inflammatory;
KW vasotropic; cytostatic; antirheumatic; antipsoriatic; antidiabetic;
KW antiarteriosclerotic; osteopathic; angiogenesis inhibitor; angiogenesis;
KW inflammatory disorder; inflammation; chronic articular rheumatism;
KW psoriasis; diabetic retinopathy; neovascular glaucoma; restenosis;
KW capillary proliferation; atherosclerotic plaque; osteoporosis; cancer;
KW solid tumour; angiofibroma; retrolental fibroplasia; haemangioma;
KW Kasposi's sarcoma; neovascularisation; tumour growth.
XX
OS Mammalia.
XX
PN WO200070665-A2.
XX
PD 23-NOV-2000.
XX
PF 17-MAY-2000; 2000WO-IB000763.
XX
PR 17-MAY-1999; 99US-0134406P.
XX
PA (CONJ-) CONJUCHEM INC.
XX
PI Bridon DP, Rasamoelisolo M, Thibaudeau K, Huang X, Beliveau R;
XX
DR WPI; 2001-090970/10.
XX
PT New modified anti-angiogenic kringle 5 peptides capable of forming
PT conjugates with blood proteins, useful for treating angiogenesis,
PT inappropriate invasion of vessels or cancers in humans or mammals.
XX
PS Claim 5; Page 9; 82pp; English.
XX
CC The present invention describes a modified anti-angiogenic peptide (I)
CC comprising a reactive group that reacts with amino groups, hydroxyl
CC groups or thiol groups on blood components to form stable covalent bonds.
CC The reactive group is selected from succinimidyl or maleimido groups. (I)
CC can have anti-inflammatory, vasotropic, cytostatic, antirheumatic,
CC antipsoriatic, antidiabetic, antiarteriosclerotic and osteopathic

CC activities, and is an angiogenesis inhibitor. (I) are useful for treating
CC angiogenesis in a human, where the derivative is reacted with blood
CC proteins. (I) are also useful for manufacturing a medicament extending
CC the in vivo half-life of a kringle 5 peptide in a patient to provide an
CC anti-angiogenic effect. In particular, a modified kringle 5 peptide can
CC be used for treating inflammatory disorders (e.g. immune and non-immune
CC inflammation, chronic articular rheumatism or psoriasis), disorders
CC associated with inappropriate or inopportune invasion of vessels (e.g.
CC diabetic retinopathy, neovascular glaucoma, restenosis, capillary
CC proliferation in atherosclerotic plaques or osteoporosis), or cancer
CC associated disorders (e.g. solid tumours, solid tumour metastases,
CC angiofibromas, retrolental fibroplasia, haemangiomas, Kasposi's sarcoma
CC or other cancers requiring neovascularisation to support tumour growth).
CC The peptides are useful for treating these diseases in mammalian or human
CC patients. AAB36562 represents a mammalian kringle 5 protein, and AAB36563
CC to AAB36577 represent specifically claimed kringle 5 peptides from the
CC present invention
XX
SQ Sequence 23 AA;

Query Match 100.0%; Score 64; DB 4; Length 23;
Best Local Similarity 100.0%; Pred. No. 0.0003;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 YTTNPRKLYDY 11
              ||||||||||
Db         13 YTTNPRKLYDY 23
```

RESULT 13
AAB92090
ID AAB92090 standard; peptide; 24 AA.
XX
AC AAB92090;
XX
DT 22-JUN-2001 (first entry)
XX
DE Laminin fragment SEQ ID NO:1266.
XX
KW Protection; endogenous therapeutic peptide; peptidase; conjugation;
KW blood component; modification; succinimidyl; maleimido group; amino;
KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO200069900-A2.
XX
PD 23-NOV-2000.
XX
PF 17-MAY-2000; 2000WO-US013576.
XX
PR 17-MAY-1999; 99US-0134406P.
PR 10-SEP-1999; 99US-0153406P.
PR 15-OCT-1999; 99US-0159783P.
XX
PA (CONJ-) CONJUCHEM INC.

XX
PI Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;
XX
DR WPI; 2001-112059/12.
XX
PT Modifying and attaching therapeutic peptides to albumin prevents
PT peptidase degradation, useful for increasing length of in vivo activity.
XX
PS Disclosure; Page 609; 733pp; English.
XX
CC The present invention describes a modified therapeutic peptide (I)
CC comprising a therapeutically active amino acid region (III) and a
CC reactive group (II) (e.g. succinimidyl and maleimido groups) attached to
CC a less therapeutically active amino acid region (IV), which covalently
CC bonds with amino/hydroxyl/thiol groups on blood components to form a
CC peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
CC (I) are useful for modifying therapeutic peptides e.g. hormones, growth
CC factors and neurotransmitters, to protect them from peptidase activity in
CC vivo for the treatment of various disorders. Endogenous therapeutic
CC peptides are not suitable as drug candidates as they require frequent
CC administration due to rapid degradation by peptidases in the body.
CC Modifying and attaching therapeutic peptides to albumin prevents or
CC reduces the action of peptidases to increase length of activity (half
CC life) and specificity as bonding to large molecules decreases
CC intracellular uptake and interference with physiological processes.
CC AAB90829 to AAB92441 represent peptides which can be used in the
CC exemplification of the present invention
XX
SQ Sequence 24 AA;

Query Match 100.0%; Score 64; DB 4; Length 24;
Best Local Similarity 100.0%; Pred. No. 0.00032;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 YTTNPRKLYDY 11
              ||||||||||
Db         13 YTTNPRKLYDY 23
```

RESULT 14
AAB92095
ID AAB92095 standard; peptide; 24 AA.
XX
AC AAB92095;
XX
DT 22-JUN-2001 (first entry)
XX
DE Laminin fragment SEQ ID NO:1271.
XX
KW Protection; endogenous therapeutic peptide; peptidase; conjugation;
KW blood component; modification; succinimidyl; maleimido group; amino;
KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO200069900-A2.

XX
PD 23-NOV-2000.
XX
PF 17-MAY-2000; 2000WO-US013576.
XX
PR 17-MAY-1999; 99US-0134406P.
PR 10-SEP-1999; 99US-0153406P.
PR 15-OCT-1999; 99US-0159783P.
XX
PA (CONJ-) CONJUCHEM INC.
XX
PI Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;
XX
DR WPI; 2001-112059/12.
XX
PT Modifying and attaching therapeutic peptides to albumin prevents
PT peptidase degradation, useful for increasing length of in vivo activity.
XX
PS Disclosure; Page 611; 733pp; English.
XX
CC The present invention describes a modified therapeutic peptide (I)
CC comprising a therapeutically active amino acid region (III) and a
CC reactive group (II) (e.g. succinimidyl and maleimido groups) attached to
CC a less therapeutically active amino acid region (IV), which covalently
CC bonds with amino/hydroxyl/thiol groups on blood components to form a
CC peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
CC (I) are useful for modifying therapeutic peptides e.g. hormones, growth
CC factors and neurotransmitters, to protect them from peptidase activity in
CC vivo for the treatment of various disorders. Endogenous therapeutic
CC peptides are not suitable as drug candidates as they require frequent
CC administration due to rapid degradation by peptidases in the body.
CC Modifying and attaching therapeutic peptides to albumin prevents or
CC reduces the action of peptidases to increase length of activity (half
CC life) and specificity as bonding to large molecules decreases
CC intracellular uptake and interference with physiological processes.
CC AAB90829 to AAB92441 represent peptides which can be used in the
CC exemplification of the present invention
XX
SQ Sequence 24 AA;

Query Match 100.0%; Score 64; DB 4; Length 24;
Best Local Similarity 100.0%; Pred. No. 0.00032;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 YTTNPRKLYDY 11
              ||||||||||
Db         13 YTTNPRKLYDY 23
```

RESULT 15
AAB36565
ID AAB36565 standard; peptide; 24 AA.
XX
AC AAB36565;
XX
DT 09-MAR-2001 (first entry)
XX

DE Mammalian kringle 5 peptide SEQ ID NO:4.
XX
KW Kringle 5; anti-angiogenic; modified; blood protein; anti-inflammatory;
KW vasotropic; cytostatic; antirheumatic; antipsoriatic; antidiabetic;
KW antiarteriosclerotic; osteopathic; angiogenesis inhibitor; angiogenesis;
KW inflammatory disorder; inflammation; chronic articular rheumatism;
KW psoriasis; diabetic retinopathy; neovascular glaucoma; restenosis;
KW capillary proliferation; atherosclerotic plaque; osteoporosis; cancer;
KW solid tumour; angiofibroma; retrolental fibroplasia; haemangioma;
KW Kasposi's sarcoma; neovascularisation; tumour growth.
XX
OS Mammalia.
XX
PN WO200070665-A2.
XX
PD 23-NOV-2000.
XX
PF 17-MAY-2000; 2000WO-IB000763.
XX
PR 17-MAY-1999; 99US-0134406P.
XX
PA (CONJ-) CONJUCHEM INC.
XX
PI Bridon DP, Rasamoelisolo M, Thibaudeau K, Huang X, Beliveau R;
XX
DR WPI; 2001-090970/10.
XX
PT New modified anti-angiogenic kringle 5 peptides capable of forming
PT conjugates with blood proteins, useful for treating angiogenesis,
PT inappropriate invasion of vessels or cancers in humans or mammals.
XX
PS Claim 5; Page 9; 82pp; English.
XX
CC The present invention describes a modified anti-angiogenic peptide (I)
CC comprising a reactive group that reacts with amino groups, hydroxyl
CC groups or thiol groups on blood components to form stable covalent bonds.
CC The reactive group is selected from succinimidyl or maleimido groups. (I)
CC can have anti-inflammatory, vasotropic, cytostatic, antirheumatic,
CC antipsoriatic, antidiabetic, antiarteriosclerotic and osteopathic
CC activities, and is an angiogenesis inhibitor. (I) are useful for treating
CC angiogenesis in a human, where the derivative is reacted with blood
CC proteins. (I) are also useful for manufacturing a medicament extending
CC the in vivo half-life of a kringle 5 peptide in a patient to provide an
CC anti-angiogenic effect. In particular, a modified kringle 5 peptide can
CC be used for treating inflammatory disorders (e.g. immune and non-immune
CC inflammation, chronic articular rheumatism or psoriasis), disorders
CC associated with inappropriate or inopportune invasion of vessels (e.g.
CC diabetic retinopathy, neovascular glaucoma, restenosis, capillary
CC proliferation in atherosclerotic plaques or osteoporosis), or cancer
CC associated disorders (e.g. solid tumours, solid tumour metastases,
CC angiofibromas, retrolental fibroplasia, haemangiomas, Kasposi's sarcoma
CC or other cancers requiring neovascularisation to support tumour growth).
CC The peptides are useful for treating these diseases in mammalian or human
CC patients. AAB36562 represents a mammalian kringle 5 protein, and AAB36563
CC to AAB36577 represent specifically claimed kringle 5 peptides from the
CC present invention
XX

SQ Sequence 24 AA;

```
  Query Match             100.0%;  Score 64;  DB 4;  Length 24;
  Best Local Similarity   100.0%;  Pred. No. 0.00032;
  Matches   11;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 YTTNPRKLYDY 11
              ||||||||||
Db         13 YTTNPRKLYDY 23
```

Search completed: October 26, 2005, 10:02:42
Job time : 165 secs

us-09-623-543a-8.rai

GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: October 26, 2005, 09:59:57 ; Search time 41 Seconds
(without alignments)
20.028 Million cell updates/sec

Title: US-09-623-543A-8
Perfect score: 64
Sequence: 1 YTTNPRKLYDY 11

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	64	100.0	79	2	US-08-763-528A-1	Sequence 1, Appli
2	64	100.0	80	2	US-08-763-528A-6	Sequence 6, Appli
3	64	100.0	90	2	US-09-131-995-4	Sequence 4, Appli
4	64	100.0	90	2	US-08-832-087B-4	Sequence 4, Appli
5	64	100.0	90	3	US-09-132-154-4	Sequence 4, Appli
6	64	100.0	93	2	US-09-131-995-7	Sequence 7, Appli
7	64	100.0	93	2	US-08-832-087B-7	Sequence 7, Appli
8	64	100.0	93	3	US-09-132-154-7	Sequence 7, Appli
9	64	100.0	95	2	US-09-131-995-3	Sequence 3, Appli
10	64	100.0	95	2	US-08-832-087B-3	Sequence 3, Appli
11	64	100.0	95	3	US-09-132-154-3	Sequence 3, Appli
12	64	100.0	98	2	US-09-131-995-6	Sequence 6, Appli
13	64	100.0	98	2	US-08-832-087B-6	Sequence 6, Appli
14	64	100.0	98	3	US-09-132-154-6	Sequence 6, Appli
15	64	100.0	101	2	US-09-131-995-2	Sequence 2, Appli
16	64	100.0	101	2	US-08-832-087B-2	Sequence 2, Appli
17	64	100.0	101	3	US-08-851-350-34	Sequence 34, Appl

18	64	100.0	101	3	US-09-132-154-2	Sequence 2, Appli
19	64	100.0	101	4	US-08-924-287A-34	Sequence 34, Appl
20	64	100.0	102	3	US-08-851-350-35	Sequence 35, Appl
21	64	100.0	102	4	US-08-924-287A-35	Sequence 35, Appl
22	64	100.0	104	2	US-09-131-995-5	Sequence 5, Appli
23	64	100.0	104	2	US-08-832-087B-5	Sequence 5, Appli
24	64	100.0	104	3	US-09-132-154-5	Sequence 5, Appli
25	64	100.0	713	4	US-09-949-016-9983	Sequence 9983, Ap
26	64	100.0	790	1	US-08-469-486-54	Sequence 54, Appl
27	64	100.0	790	2	US-08-469-658-54	Sequence 54, Appl
28	64	100.0	791	2	US-09-131-995-1	Sequence 1, Appli
29	64	100.0	791	2	US-08-832-087B-1	Sequence 1, Appli
30	64	100.0	791	3	US-09-132-154-1	Sequence 1, Appli
31	64	100.0	791	4	US-08-991-761A-6	Sequence 6, Appli
32	64	100.0	791	4	US-08-924-287A-1	Sequence 1, Appli
33	64	100.0	810	1	US-07-854-603-2	Sequence 2, Appli
34	64	100.0	810	1	US-08-147-000B-29	Sequence 29, Appl
35	64	100.0	810	3	US-09-086-514-1	Sequence 1, Appli
36	64	100.0	810	4	US-09-192-012-5	Sequence 5, Appli
37	64	100.0	810	4	US-09-403-736-1	Sequence 1, Appli
38	64	100.0	810	4	US-09-701-265-1	Sequence 1, Appli
39	64	100.0	810	6	5200340-8	Patent No. 5200340
40	64	100.0	810	6	5200340-8	Patent No. 5200340
41	64	100.0	812	1	US-08-248-629A-1	Sequence 1, Appli
42	64	100.0	812	1	US-08-451-932-1	Sequence 1, Appli
43	64	100.0	812	1	US-08-452-260-1	Sequence 1, Appli
44	64	100.0	812	1	US-08-326-785-1	Sequence 1, Appli
45	64	100.0	812	2	US-08-612-788-1	Sequence 1, Appli

ALIGNMENTS

```
RESULT 1
US-08-763-528A-1
; Sequence 1, Application US/08763528A
; Patent No. 5854221
;  GENERAL INFORMATION:
;    APPLICANT:  Cao, Yihai
;    APPLICANT:  Folkman, M. Judah
;    TITLE OF INVENTION:  Endothelial Cell Proliferation Inhibitor
;    TITLE OF INVENTION:  and Method of Use
;    NUMBER OF SEQUENCES:  6
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Jones & Askew, LLP
;      STREET:  191 Peachtree Street, 37th Floor
;      CITY:  Atlanta
;      STATE:  Georgia
;      COUNTRY:  US
;      ZIP:  30303
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/763,528A
;      FILING DATE:  12-DEC-1996
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Warren, William L.
;      REGISTRATION NUMBER:  36,714
;      REFERENCE/DOCKET NUMBER:  05940-0251
```

```
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  404-818-3700
;      TELEFAX:  404-818-3799
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  79 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    HYPOTHETICAL:  NO
;    ANTI-SENSE:  NO
;    FRAGMENT TYPE:  internal
US-08-763-528A-1

  Query Match             100.0%;  Score 64;  DB 2;  Length 79;
  Best Local Similarity   100.0%;  Pred. No. 0.00025;
  Matches   11;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 YTTNPRKLYDY 11
              ||||||||||
Db         64 YTTNPRKLYDY 74


RESULT 2
US-08-763-528A-6
; Sequence 6, Application US/08763528A
; Patent No. 5854221
;  GENERAL INFORMATION:
;    APPLICANT:  Cao, Yihai
;    APPLICANT:  Folkman, M. Judah
;    TITLE OF INVENTION:  Endothelial Cell Proliferation Inhibitor
;    TITLE OF INVENTION:  and Method of Use
;    NUMBER OF SEQUENCES:  6
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Jones & Askew, LLP
;      STREET:  191 Peachtree Street, 37th Floor
;      CITY:  Atlanta
;      STATE:  Georgia
;      COUNTRY:  US
;      ZIP:  30303
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/763,528A
;      FILING DATE:  12-DEC-1996
;      CLASSIFICATION:  530
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Warren, William L.
;      REGISTRATION NUMBER:  36,714
;      REFERENCE/DOCKET NUMBER:  05940-0251
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  404-818-3700
;      TELEFAX:  404-818-3799
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  80 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
```

```
;    MOLECULE TYPE:  protein
;    HYPOTHETICAL:  NO
;    ANTI-SENSE:  NO
;    FRAGMENT TYPE:  internal
;    FEATURE:
;      NAME/KEY:  Protein
;      LOCATION:  1..80
;      OTHER INFORMATION:  /note= "Kringle 5 - Figure 3"
US-08-763-528A-6

  Query Match             100.0%;  Score 64;  DB 2;  Length 80;
  Best Local Similarity   100.0%;  Pred. No. 0.00026;
  Matches   11;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 YTTNPRKLYDY 11
              ||||||||||
Db         64 YTTNPRKLYDY 74
```

us-09-623-543a-8.rapb

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: October 26, 2005, 09:56:11 ; Search time 165 Seconds
(without alignments)
27.834 Million cell updates/sec

Title: US-09-623-543A-8
Perfect score: 64
Sequence: 1 YTTNPRKLYDY 11

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1862994 seqs, 417510619 residues

Total number of hits satisfying chosen parameters: 1862994

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA:*
1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
4: /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
5: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
6: /cgn2_6/ptodata/1/pubpaa/PCTUS_PUBCOMB.pep:*
7: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
8: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
9: /cgn2_6/ptodata/1/pubpaa/US09A_PUBCOMB.pep:*
10: /cgn2_6/ptodata/1/pubpaa/US09B_PUBCOMB.pep:*
11: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep:*
12: /cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
13: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*
14: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
15: /cgn2_6/ptodata/1/pubpaa/US10C_PUBCOMB.pep:*
16: /cgn2_6/ptodata/1/pubpaa/US10D_PUBCOMB.pep:*
17: /cgn2_6/ptodata/1/pubpaa/US10E_PUBCOMB.pep:*
18: /cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep:*
19: /cgn2_6/ptodata/1/pubpaa/US11A_PUBCOMB.pep:*
20: /cgn2_6/ptodata/1/pubpaa/US11_NEW_PUB.pep:*
21: /cgn2_6/ptodata/1/pubpaa/US60_NEW_PUB.pep:*
22: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	64	100.0	11	17	US-10-946-789-9	Sequence 9, Appli

2	64	100.0	11	20	US-11-066-697-1270	Sequence 1270, Ap
3	64	100.0	12	20	US-11-066-697-1265	Sequence 1265, Ap
4	64	100.0	12	20	US-11-066-697-1269	Sequence 1269, Ap
5	64	100.0	23	20	US-11-066-697-1272	Sequence 1272, Ap
6	64	100.0	24	20	US-11-066-697-1266	Sequence 1266, Ap
7	64	100.0	24	20	US-11-066-697-1271	Sequence 1271, Ap
8	64	100.0	32	10	US-09-999-457C-13	Sequence 13, Appl
9	64	100.0	79	9	US-09-753-064-1	Sequence 1, Appli
10	64	100.0	80	9	US-09-753-064-6	Sequence 6, Appli
11	64	100.0	80	9	US-09-761-120-47	Sequence 47, Appl
12	64	100.0	80	14	US-10-267-137-8	Sequence 8, Appli
13	64	100.0	80	15	US-10-402-364-47	Sequence 47, Appl
14	64	100.0	84	15	US-10-425-000-84	Sequence 84, Appl
15	64	100.0	84	15	US-10-424-999-49	Sequence 49, Appl
16	64	100.0	87	15	US-10-425-000-43	Sequence 43, Appl
17	64	100.0	89	15	US-10-425-000-73	Sequence 73, Appl
18	64	100.0	89	15	US-10-424-999-41	Sequence 41, Appl
19	64	100.0	101	16	US-10-753-646-34	Sequence 34, Appl
20	64	100.0	102	16	US-10-753-646-35	Sequence 35, Appl
21	64	100.0	219	15	US-10-425-000-72	Sequence 72, Appl
22	64	100.0	219	15	US-10-424-999-40	Sequence 40, Appl
23	64	100.0	348	15	US-10-450-976-6	Sequence 6, Appli
24	64	100.0	348	17	US-10-729-475-8	Sequence 8, Appli
25	64	100.0	348	18	US-10-503-910-29	Sequence 29, Appl
26	64	100.0	433	18	US-10-503-910-40	Sequence 40, Appl
27	64	100.0	437	18	US-10-503-910-41	Sequence 41, Appl
28	64	100.0	458	9	US-09-946-893-4	Sequence 4, Appli
29	64	100.0	459	9	US-09-761-120-46	Sequence 46, Appl
30	64	100.0	459	15	US-10-402-364-46	Sequence 46, Appl
31	64	100.0	484	15	US-10-135-872B-7	Sequence 7, Appli
32	64	100.0	567	16	US-10-741-601-413	Sequence 413, App
33	64	100.0	569	9	US-09-946-893-5	Sequence 5, Appli
34	64	100.0	571	9	US-09-946-893-8	Sequence 8, Appli
35	64	100.0	576	9	US-09-946-893-6	Sequence 6, Appli
36	64	100.0	714	15	US-10-415-012-8	Sequence 8, Appli
37	64	100.0	714	18	US-10-503-910-18	Sequence 18, Appl
38	64	100.0	791	9	US-09-967-386-1	Sequence 1, Appli
39	64	100.0	791	14	US-10-304-287-1	Sequence 1, Appli
40	64	100.0	791	15	US-10-360-101-257	Sequence 257, App
41	64	100.0	791	16	US-10-778-423-1	Sequence 1, Appli
42	64	100.0	791	16	US-10-753-646-1	Sequence 1, Appli
43	64	100.0	791	16	US-10-735-577-1	Sequence 1, Appli
44	64	100.0	791	17	US-10-729-475-10	Sequence 10, Appl
45	64	100.0	791	18	US-10-503-910-17	Sequence 17, Appl

ALIGNMENTS

RESULT 1
US-10-946-789-9
; Sequence 9, Application US/10946789
; Publication No. US20050053993A1
; GENERAL INFORMATION:
; APPLICANT: Davidson, Donald J.
; TITLE OF INVENTION: Uses of an Endothelial Cell Receptor
; FILE REFERENCE: 6867.US.P1
; CURRENT APPLICATION NUMBER: US/10/946,789
; CURRENT FILING DATE: 2004-09-22
; PRIOR APPLICATION NUMBER: 10/322,853
; PRIOR FILING DATE: 2002-12-18
; NUMBER OF SEQ ID NOS: 18
; SOFTWARE: FastSEQ for Windows Version 4.0

```
; SEQ ID NO 9
;   LENGTH: 11
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-946-789-9

  Query Match             100.0%;  Score 64;  DB 17;  Length 11;
  Best Local Similarity   100.0%;  Pred. No. 0.00021;
  Matches   11;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 YTTNPRKLYDY 11
              ||||||||||
Db          1 YTTNPRKLYDY 11


RESULT 2
US-11-066-697-1270
; Sequence 1270, Application US/11066697
; Publication No. US20050187159A1
; GENERAL INFORMATION:
;  APPLICANT: Bridon, Dominique P.
;  APPLICANT:  Ezrin, Alan M.
;  APPLICANT:  Milner, Peter G.
;  APPLICANT:  Holmes, Darren L.
;  APPLICANT:  Thibaudeau, Karen
;  TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM
;  TITLE OF INVENTION:  PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD
;  TITLE OF INVENTION:  COMPONENTS
;  FILE REFERENCE: 500862002301
;  CURRENT APPLICATION NUMBER: US/11/066,697
;  CURRENT FILING DATE:  2005-02-25
;  PRIOR APPLICATION NUMBER: 09/657,276
;  PRIOR FILING DATE: 2000-09-07
;  PRIOR APPLICATION NUMBER: 60/153,406
;  PRIOR FILING DATE: 1999-09-10
;  PRIOR APPLICATION NUMBER: 60/159,783
;  PRIOR FILING DATE: 1999-10-15
;  NUMBER OF SEQ ID NOS: 1617
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 1270
;   LENGTH: 11
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Synthetic
;   OTHER INFORMATION: Peptide
US-11-066-697-1270

  Query Match             100.0%;  Score 64;  DB 20;  Length 11;
  Best Local Similarity   100.0%;  Pred. No. 0.00021;
  Matches   11;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 YTTNPRKLYDY 11
              ||||||||||
Db          1 YTTNPRKLYDY 11
```

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: October 26, 2005, 09:53:51 ; Search time 38 Seconds
(without alignments)
27.852 Million cell updates/sec

Title: US-09-623-543A-8
Perfect score: 64
Sequence: 1 YTTNPRKLYDY 11

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_79:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	64	100.0	810	1	PLHU	plasmin (EC 3.4.21
2	64	100.0	812	1	PLMS	plasmin (EC 3.4.21
3	60	93.8	460	2	B61545	plasmin (EC 3.4.21
4	60	93.8	810	2	I46260	plasmin (EC 3.4.21
5	60	93.8	810	2	B30848	plasmin (EC 3.4.21
6	56	87.5	790	1	PLPG	plasmin (EC 3.4.21
7	54	84.4	4548	1	S00657	apoprotein(a) (EC
8	50	78.1	455	2	A61545	plasmin (EC 3.4.21
9	47	73.4	812	1	PLBO	plasmin (EC 3.4.21
10	45	70.3	439	2	A42289	glucose-fructose o
11	43	67.2	927	2	F82818	conserved hypothet
12	42	65.6	184	2	B82307	16S rRNA processin
13	42	65.6	746	2	S06049	probable CDP glyce

14	41	64.1	389	2	A89789	hypothetical prote
15	40	62.5	189	2	A81390	probable membrane
16	40	62.5	261	2	S69709	hypothetical prote
17	40	62.5	401	2	F86754	prophage pi2 prote
18	40	62.5	701	2	T37682	hypothetical prote
19	40	62.5	1113	2	S73327	MG140 homolog - My
20	40	62.5	1237	2	AC1583	internalin protein
21	39	60.9	374	2	F69233	carbamoyl-phosphat
22	39	60.9	395	2	F86740	teichoic acid bios
23	39	60.9	403	2	T44836	glycosyltransferas
24	39	60.9	476	2	A48664	toxin synthesis tr
25	38	59.4	129	2	T08527	traD protein - Ent
26	38	59.4	129	2	S37670	traD protein - Esc
27	38	59.4	307	2	A71602	rifin PFB0955w - m
28	38	59.4	380	2	A53809	mitochondrial resp
29	38	59.4	384	2	AI1566	B. subtilis TagF p
30	38	59.4	716	1	JC5061	macrophage-stimula
31	38	59.4	765	2	G85039	hypothetical prote
32	38	59.4	791	2	A46140	diacylglycerol kin
33	38	59.4	796	2	B46140	diacylglycerol kin
34	38	59.4	827	1	S28273	diacylglycerol kin
35	38	59.4	1045	2	G69167	cobalamin biosynth
36	38	59.4	1413	2	B82877	conserved hypothet
37	37	57.8	254	2	B65084	transcription acti
38	37	57.8	377	2	T00152	hypothetical prote
39	37	57.8	393	2	AE1754	portal protein [ba
40	37	57.8	441	2	E86758	dihydroorotase (EC
41	37	57.8	468	2	S52495	acid phosphatase h
42	37	57.8	475	2	E83450	cytochrome-c oxida
43	37	57.8	491	2	T34226	hypothetical prote
44	37	57.8	494	2	A89985	hypothetical prote
45	37	57.8	512	2	A54400	protein kinase (EC

ALIGNMENTS

RESULT 1
PLHU
plasmin (EC 3.4.21.7) precursor [validated] - human
N;Alternate names: plasminogen precursor [misnomer]
N;Contains: angiostatin; microplasmin; plasminogen
C;Species: Homo sapiens (man)
C;Date: 24-Apr-1984 #sequence_revision 02-Dec-1994 #text_change 09-Jul-2004
C;Accession: A35229; I52242; A26646; I62738; I84609; S03735; A00929; A04627; A04625; A04626; A39940
R;Petersen, T.E.; Martzen, M.R.; Ichinose, A.; Davie, E.W.
J. Biol. Chem. 265, 6104-6111, 1990
A;Title: Characterization of the gene for human plasminogen, a key proenzyme in the fibrinolytic system.
A;Reference number: A35229; MUID:90202879; PMID:2318848
A;Accession: A35229
A;Molecule type: DNA
A;Residues: 1-810 <PET>
A;Cross-references: UNIPROT:P00747; UNIPROT:Q9UBQ9; UNIPROT:Q9UMI2; GB:J05286; GB:M34276; NID:g190064; PIDN:AAA60113.1; PID:g387026
A;Experimental source: leukocyte; lung fibroblast

R;Malgaretti, N.; Bruno, L.; Pontoglio, M.; Candiani, G.; Meroni, G.;
Ottolenghi, S.; Taramelli, R.
Biochem. Biophys. Res. Commun. 173, 1013-1018, 1990
A;Title: Definition of the transcription initiation site of human plasminogen
gene in liver and non hepatic cell lines.
A;Reference number: I52242; MUID:91097523; PMID:2268308
A;Accession: I52242
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-16 <MAL1>
A;Cross-references: GB:M62890; NID:g190092; PIDN:AAA36454.1; PID:g553613
R;Forsgren, M.; Raden, B.; Israelsson, M.; Larsson, K.; Heden, L.O.
FEBS Lett. 213, 254-260, 1987
A;Title: Molecular cloning and characterization of a full-length cDNA clone for
human plasminogen.
A;Reference number: A26646; MUID:87162490; PMID:3030813
A;Accession: A26646
A;Molecule type: mRNA
A;Residues: 1-471,'D',473-810 <FOR>
A;Cross-references: GB:X05199; NID:g35530; PIDN:CAA28831.1; PID:g35531
A;Experimental source: liver
R;Malinowski, D.P.; Sadler, J.E.; Davie, E.W.
Biochemistry 23, 4243-4250, 1984
A;Title: Characterization of a complementary deoxyribonucleic acid coding for
human and bovine plasminogen.
A;Reference number: I45961; MUID:85023311; PMID:6148961
A;Accession: I62738
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 292-471,'D',473-810 <MAL2>
A;Cross-references: GB:K02922; NID:g190112; PIDN:AAA60124.1; PID:g387031
A;Accession: I84609
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 367-419 <MAL3>
A;Cross-references: GB:K02921; NID:g190110; PIDN:AAA60123.1; PID:g190111
R;Brunisholz, R.A.; Lerch, P.G.; Schaller, J.; Rickli, E.E.; Lergier, W.;
Manneberg, M.; Gillessen, D.
Eur. J. Biochem. 114, 465-470, 1981
A;Title: Comparison of the primary structure of the N-terminal CNBr fragments of
human, bovine and porcine plasminogen.
A;Reference number: S03735; MUID:81212097; PMID:7238497
A;Accession: S03735
A;Molecule type: protein
A;Residues: 20-71,'E',73-76 <BRU>
R;Sottrup-Jensen, L.; Petersen, T.E.; Magnusson, S.
submitted to the Atlas, July 1977
A;Reference number: A00929
A;Accession: A00929
A;Molecule type: protein
A;Residues: 20-71,'E',73-85,87-106,'D',108-360,'E',362-810 <SOT>
R;Wiman, B.
Eur. J. Biochem. 76, 129-137, 1977
A;Title: Primary structure of the B-chain of human plasmin.
A;Reference number: A04627; MUID:77225245; PMID:142009
A;Accession: A04627
A;Molecule type: protein

A;Residues: 581-810 <WI1>
R;Wiman, B.; Wallen, P.
Eur. J. Biochem. 50, 489-494, 1975
A;Title: Structural relationship between "glutamic acid" and "lysine" forms of human plasminogen and their interaction with the NH-2-terminal activation peptide as studied by affinity chromatography.
A;Reference number: A04625; MUID:75093329; PMID:122932
A;Accession: A04625
A;Molecule type: protein
A;Residues: 20-50,'Q',51-71,'E',73-85,87-100 <WI2>
R;Wiman, B.; Wallen, P.
Eur. J. Biochem. 58, 539-547, 1975
A;Title: Amino-acid sequence of the cyanogen-bromide fragment from human plasminogen that forms the linkage between the plasmin chains.
A;Reference number: A04626; MUID:76043692; PMID:126863
A;Accession: A04626
A;Molecule type: protein
A;Residues: 483-507,'E',509-604 <WI3>
R;Robbins, K.C.; Bernabe, P.; Arzadon, L.; Summaria, L.
J. Biol. Chem. 248, 1631-1633, 1973
A;Title: The primary structure of human plasminogen. II. The histidine loop of human plasmin: light (B) chain active center histidine sequence.
A;Reference number: A92125; MUID:73149248; PMID:4694729
A;Contents: annotation; active site
R;Groskopf, W.R.; Summaria, L.; Robbins, K.C.
J. Biol. Chem. 244, 3590-3597, 1969
A;Title: Studies on the active center of human plasmin. Partial amino acid sequence of a peptide containing the active center serine residue.
A;Reference number: A92048; MUID:69234739; PMID:4240117
A;Contents: annotation; active site
R;Trexler, M.; Vali, Z.; Patthy, L.
J. Biol. Chem. 257, 7401-7406, 1982
A;Title: Structure of the omega-aminocarboxylic acid-binding sites of human plasminogen. Arginine 70 and aspartic acid 56 are essential for binding of ligand by kringle 4.
A;Reference number: A92382; MUID:82213905; PMID:6919539
A;Contents: annotation; omega-aminocarboxylic acid binding sites
R;Vali, Z.; Patthy, L.
J. Biol. Chem. 259, 13690-13694, 1984
A;Title: The fibrin-binding site of human plasminogen. Arginines 32 and 34 are essential for fibrin affinity of the kringle 1 domain.
A;Reference number: A92458; MUID:85054794; PMID:6094526
A;Contents: annotation; fibrin binding site; omega-aminocarboxylic acid binding site
R;Cao, Y.; Ji, R.W.; Davidson, D.; Schaller, J.; Marti, D.; Soehndel, S.; McCance, S.G.; O'Reilly, M.S.; Llinas, M.; Folkman, J.
J. Biol. Chem. 271, 29461-29467, 1996
A;Title: Kringle domains of human angiostatin. Characterization of the anti-proliferative activity on endothelial cells.
A;Reference number: A58811; MUID:97067211; PMID:8910613
A;Contents: annotation
R;Lijnen, H.R.; Ugwu, F.; Bini, A.; Collen, D.
Biochemistry 37, 4699-4702, 1998
A;Title: Generation of an angiostatin-like fragment from plasminogen by stromelysin-1 (MMP-3).
A;Reference number: A58812; MUID:9548733; PMID:9548733
A;Contents: annotation

R;Tulinsky, A.; Mulichak, A.M.
submitted to the Brookhaven Protein Data Bank, July 1991
A;Reference number: A51341; PDB:1PK4
A;Contents: annotation; X-ray crystallography, 1.9 angstroms, residues 376-454
R;Tulinsky, A.; Wu, T.P.
submitted to the Brookhaven Protein Data Bank, July 1991
A;Reference number: A51488; PDB:2PK4
A;Contents: annotation; X-ray crystallography, 2.25 angstroms, residues 375-454
R;Wu, T.P.; Tulinsky, A.
submitted to the Brookhaven Protein Data Bank, August 1993
A;Reference number: A51911; PDB:1PKR
A;Contents: annotation; X-ray crystallography, 2.48 angstroms, residues 102-181
R;Padmanabhan, K.; Tulinsky, A.
submitted to the Brookhaven Protein Data Bank, April 1994
A;Reference number: A52408; PDB:1PMK
A;Contents: annotation; X-ray crystallography, 2.25 angstroms, residues 377-454
R;Tulinsky, A.; Mathews, I.I.
submitted to the Brookhaven Protein Data Bank, December 1995
A;Reference number: A65244; PDB:1CEA
A;Contents: annotation; X-ray crystallography, 2.1 angstroms, residues 102-181
R;Tulinsky, A.; Mathews, I.I.
submitted to the Brookhaven Protein Data Bank, December 1995
A;Reference number: A65245; PDB:1CEB
A;Contents: annotation; X-ray crystallography, 2.1 angstroms, residues 102-181
R;Mulichak, A.M.; Tulinsky, A.; Ravichandran, K.G.
Biochemistry 30, 10576-10588, 1991
A;Title: Crystal and molecular structure of human plasminogen kringle 4 refined at 1.9 Angstroms resolution.
A;Reference number: A58819; MUID:92031502; PMID:1657148
A;Contents: annotation
R;Wu, T.P.; Padmanabhan, K.; Tulinsky, A.; Mulichak, A.M.
Biochemistry 30, 10589-10594, 1991
A;Title: The refined structure of the epsilon-aminocaproic acid complex of human plasminogen kringle 4.
A;Reference number: A58818; MUID:92031503; PMID:1657149
A;Contents: annotation
R;de Vos, A.M.; Ultsch, M.H.; Kelley, R.F.; Padmanabhan, K.; Tulinsky, A.; Westbrook, M.L.; Kossiakoff, A.A.
Biochemistry 31, 270-279, 1992
A;Title: Crystal structure of the kringle 2 domain of tissue plasminogen activator at 2.4-angstrom resolution.
A;Reference number: A39483; MUID:92118803; PMID:1310033
A;Contents: annotation; X-ray crystallography, 2.4 angstroms
R;Stec, B.; Teeter, M.M.; Whitlow, M.; Yamano, A.
submitted to the Brookhaven Protein Data Bank, June 1995
A;Reference number: A65980; PDB:1KRN
A;Contents: annotation; X-ray crystallography, 1.67 angstroms, residues 376-454
R;Rejante, M.; Llinas, M.
submitted to the Brookhaven Protein Data Bank, August 1996
A;Reference number: A65803; PDB:1HPJ
A;Contents: annotation; conformation by (1)H-NMR, residues 103-181
R;Rejante, M.; Llinas, M.
submitted to the Brookhaven Protein Data Bank, August 1996
A;Reference number: A65804; PDB:1HPK
A;Contents: annotation; conformation by (1)H-NMR, residues 103-181
R;Rejante, M.R.; Llinas, M.
Eur. J. Biochem. 221, 927-937, 1994

A;Title: (1)H-NMR assignments and secondary structure of human plasminogen kringle 1.
A;Reference number: S43645; MUID:94237157; PMID:8181475
A;Contents: annotation; conformation by (1)H-NMR, residues 96-184
R;Rejante, M.R.; Llinas, M.
Eur. J. Biochem. 221, 939-949, 1994
A;Title: Solution structure of the epsilon-aminohexanoic acid complex of human plasminogen kringle 1.
A;Reference number: A58817; MUID:94237158; PMID:8181476
A;Contents: annotation; conformation by (1)H-NMR
C;Comment: Plasminogen is synthesized by the kidney and is present in plasma and many other extracellular fluids.
C;Comment: Plasminogen is converted to plasmin by plasminogen activators (see PIR:UKHU and PIR:UKHUT). Both plasmin and the activator are then bound to fibrin (see PIR:FGHUA, PIR:FGHUB, PIR:FGHUG, and PIR:FGHUGB).
C;Comment: Plasmin is inactivated by alpha-2-antiplasmin (see PIR:ITHUA2) immediately after dissociation from the clot. In the presence of the inhibitor, the activation involves only cleavage after Arg-580, resulting in two chains connected by two disulfide bonds. Without the inhibitor, the activation also involves removal of the activation peptide.
C;Comment: Microplasmin is formed by autolytic cleavage of plasmin under artificial conditions at pH 11.
C;Comment: Stromelysin 1 (see PIR:KCHUS1) acts on plasminogen to produce angiostatin. Together with endostatin (see PIR:A53019), angiostatin acts to inhibit angiogenesis, and so may be useful in treating solid tumors.
C;Genetics:
A;Gene: GDB:PLG
A;Cross-references: GDB:119498; OMIM:173350
A;Map position: 6q26-6q27
A;Introns: 17/1; 62/2; 98/1; 136/2; 183/1; 223/2; 263/1; 317/2; 366/1; 419/2; 480/1; 529/3; 561/1; 601/2; 626/2; 673/2; 709/1; 757/3
C;Function:
A;Description: dissolves the fibrin of blood clots; acts as a proteolytic factor in a variety of processes including embryonic development, tissue remodeling and tumor invasion; in ovulation it weakens the walls of the graafian follicle; also activates the urokinase-type plasminogen activator
A;Pathway: fibrinolysis
C;Superfamily: plasmin; kringle homology; plasminogen-related protein precursor homology; trypsin homology
C;Keywords: angiogenesis inhibitor; blood; duplication; fibrinolysis; glycoprotein; hydrolase; kidney; kringle; plasma; polymorphism; serine proteinase; zymogen
F;1-96/Domain: plasminogen-related protein precursor homology <PLPH>
F;1-19/Domain: signal sequence #status predicted <SIG>
F;20-810/Product: plasminogen #status experimental <PRO>
F;20-96/Domain: activation peptide #status experimental <APT>
F;79-466/Product: angiostatin #status experimental <AST>
F;97-580,581-810/Product: plasmin #status experimental <MAT>
F;97-580/Domain: plasmin chain A #status experimental <CHA>
F;103-181/Domain: kringle homology <KR1>
F;185-262/Domain: kringle homology <KR2>
F;275-352/Domain: kringle homology <KR3>
F;377-454/Domain: kringle homology <KR4>
F;481-560/Domain: kringle homology <KR5>
F;550-580,581-810/Product: microplasmin #status experimental <MMT>

Query Match 100.0%; Score 64; DB 1; Length 810;

Best Local Similarity 100.0%; Pred. No. 0.0018;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 YTTNPRKLYDY 11
              ||||||||||| 
Db        544 YTTNPRKLYDY 554
```

us-09-623-543a-8.rup

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: October 26, 2005, 09:42:21 ; Search time 169 Seconds
(without alignments)
33.331 Million cell updates/sec

Title: US-09-623-543A-8
Perfect score: 64
Sequence: 1 YTTNPRKLYDY 11

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1612378 seqs, 512079187 residues

Total number of hits satisfying chosen parameters: 1612378

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : UniProt_03:*
1: uniprot_sprot:*
2: uniprot_trembl:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	64	100.0	90	2	Q8NG20	Q8ng20 homo sapien
2	64	100.0	261	2	Q8NG19	Q8ng19 homo sapien
3	64	100.0	334	2	O46507	O46507 papio hamad
4	64	100.0	810	1	PLMN_HUMAN	P00747 homo sapien
5	64	100.0	812	1	PLMN_MOUSE	P20918 mus musculu
6	60	93.8	343	1	PLMN_SHEEP	P81286 ovis aries
7	60	93.8	810	1	PLMN_ERIEU	Q29485 erinaceus e
8	60	93.8	810	1	PLMN_MACMU	P12545 macaca mula
9	58	90.6	759	2	Q7TP84	Q7tp84 rattus norv
10	58	90.6	812	1	PLMN_RAT	Q01177 rattus norv
11	57	89.1	806	1	PLMN_MACEU	O18783 macropus eu
12	56	87.5	790	1	PLMN_PIG	P06867 sus scrofa
13	54	84.4	95	2	Q8N696	Q8n696 homo sapien
14	54	84.4	4548	1	APOA_HUMAN	P08519 homo sapien
15	50	78.1	338	1	PLMN_HORSE	P80010 equus cabal
16	48	75.0	332	2	Q8P236	Q8p236 streptococc
17	47	73.4	812	1	PLMN_BOVIN	P06868 bos taurus
18	46	71.9	209	2	Q8BS17	Q8bs17 mus musculu
19	46	71.9	333	1	PLMN_CANFA	P80009 canis famil
20	46	71.9	466	2	Q6TCI0	Q6tci0 mus musculu
21	46	71.9	1082	2	Q720I5	Q720i5 listeria mo

22	45	70.3	433	2	P75002	P75002 zymomonas m
23	45	70.3	439	1	GFO_ZYMMO	Q07982 zymomonas m
24	44	68.8	332	2	Q9A117	Q9a117 streptococc
25	44	68.8	332	2	Q7CFD4	Q7cfd4 streptococc
26	43	67.2	927	2	Q87AV2	Q87av2 xylella fas
27	43	67.2	927	2	Q9PGG3	Q9pgg3 xylella fas
28	42	65.6	182	1	RIMM_VIBCH	Q9kuf9 vibrio chol
29	42	65.6	293	2	Q6PX56	Q6px56 drosophila
30	42	65.6	323	2	Q6PX50	Q6px50 drosophila
31	42	65.6	369	2	Q6PX57	Q6px57 drosophila
32	42	65.6	369	2	Q6Q375	Q6q375 drosophila
33	42	65.6	384	2	Q720Y4	Q720y4 listeria mo
34	42	65.6	429	2	Q8AVB0	Q8avb0 brachydanio
35	42	65.6	438	2	Q6PX51	Q6px51 drosophila
36	42	65.6	447	2	Q6PX52	Q6px52 drosophila
37	42	65.6	447	2	Q6PX53	Q6px53 drosophila
38	42	65.6	460	2	Q9VSJ4	Q9vsj4 drosophila
39	42	65.6	659	2	Q95U58	Q95u58 drosophila
40	42	65.6	659	2	Q6Q376	Q6q376 drosophila
41	42	65.6	711	2	Q65E81	Q65e81 bacillus li
42	42	65.6	746	1	TAGF_BACSU	P13485 bacillus su
43	42	65.6	818	2	Q6PBA6	Q6pba6 brachydanio
44	41	64.1	389	2	Q8NYH7	Q8nyh7 staphylococ
45	41	64.1	389	2	Q99WW9	Q99ww9 staphylococ

ALIGNMENTS

```
RESULT 1
Q8NG20
ID   Q8NG20      PRELIMINARY;      PRT;    90 AA.
AC   Q8NG20;
DT   01-OCT-2002 (TrEMBLrel. 22, Created)
DT   01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
DT   01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE   Plasminogen/activator kringle.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Dou D.;
RL   Submitted (JUN-2000) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF282882; AAM52248.1; -.
DR   HSSP; P00750; 1PK2.
DR   InterPro; IPR000001; Kringle.
DR   Pfam; PF00051; Kringle; 1.
DR   PRINTS; PR00018; KRINGLE.
DR   ProDom; PD000395; Kringle; 1.
DR   SMART; SM00130; KR; 1.
DR   PROSITE; PS00021; KRINGLE_1; 1.
DR   PROSITE; PS50070; KRINGLE_2; 1.
KW   Kringle.
SQ   SEQUENCE   90 AA;  9804 MW;  A33887F9FDF4C7B1 CRC64;

  Query Match             100.0%;  Score 64;  DB 2;  Length 90;
  Best Local Similarity   100.0%;  Pred. No. 0.00059;
  Matches   11;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 YTTNPRKLYDY 11
              ||||||||||| 
```

Db 72 YTTNPRKLYDY 82